Scopus 23: 29-43, July 2003

A reassessment of the northern population of Cape Teal *Anas capensis*

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The Cape Teal is a widespread but localised Afrotropical species. Scott & Rose (1996) divide the distribution into two distinct populations, one to the north of Zambia and one to the south. The southern Africa population was treated in some detail by Winterbottom (1974) who also summarised available literature for the northern range states. This present closer look at the distribution and recorded numbers for the northern population suggests a much more restricted range than given in Scott & Rose (1996) and a considerably smaller population size than their estimate of 100,000 to 250,000 birds.

In East Africa the Cape Teal is generally confined to alkaline and brackish waters within the Rift Valley. It is rare on the open exposed waters of the larger lakes, presumably due to difficulties with feeding in choppy water. Where these lakes are highly alkaline, such as Lake Natron, the few birds present tend to concentrate around river inlets. Its preferred habitat is the smaller, more secluded lakes and ponds on which it is largely resident, moving when temporal ponds are virtually dry and then only to nearby permanent alkaline waters. There is little or no vegetation cover along the shores of preferred habitat and this is not at all a shy bird. It is therefore easy to observe and relatively easy to determine accurate numbers at any given locality on a particular day. It is important to bear this in mind when considering the population figures suggested here.

The distribution of Cape Teal is shown in Figure 1. Each location is mapped with a solid circle or area for known breeding sites and/or congregations and an open shape for wanderers and/or extralimital records. Different shapes indicate suggested population affinities. The distribution limits given in Scott & Rose (1996) are shown by a solid line. As will be argued, the northern population is itself divided into a western and an eastern component, the former centred on the Lake Chad basin and the latter on the East African Rift Valley. In this review of published and unpublished observations each range state is treated individually and listed alphabetically within these divisions.

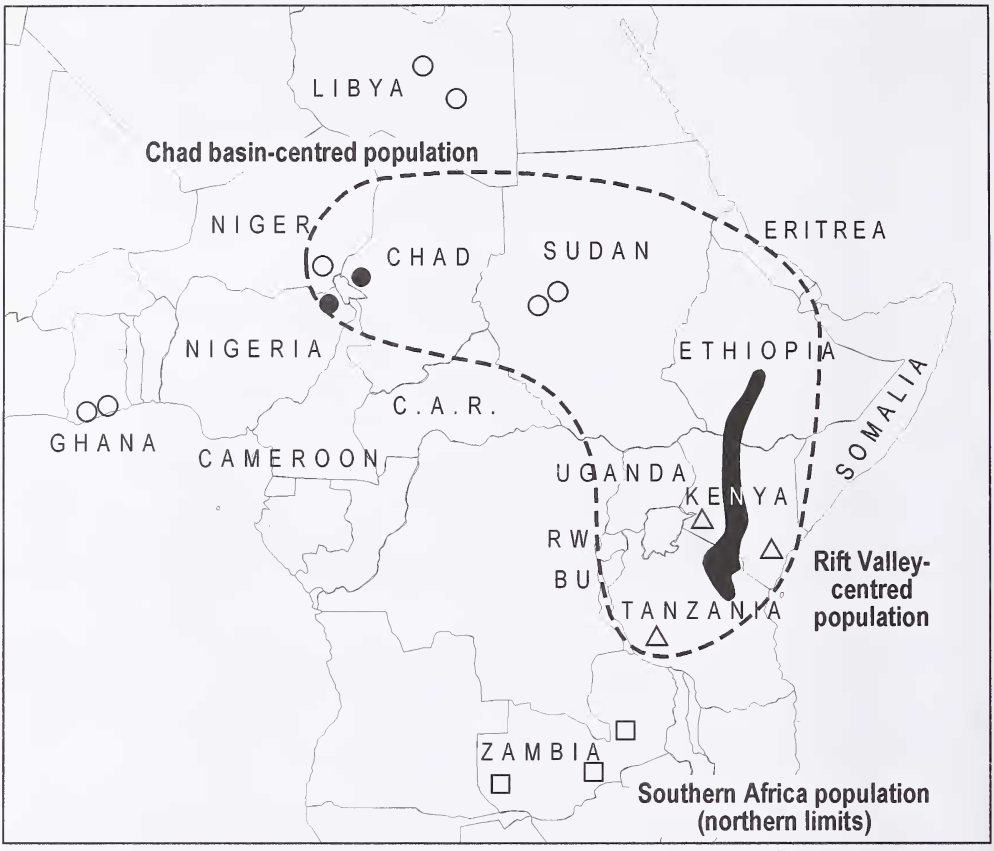

Figure 1. Distribution of the northern population of Cape Teal: solid symbols and areas indicate established congregations; open symbols indicate occasional, single or extralimital records; dashed line shows the range given by Scott & Rose (1996). Affinities: triangles are East African Rift Valley-centred population; circles are Chad basin-centred population; squares are northern limits of Southern Africa population.

The Chad basin-centred population

Cameroon

The Cape Teal is not mentioned by Louette (1981) or listed by Dowsett & Dowsett-Lemaire (1993) for Cameroon but it may occur in low numbers within reach of Lake Chad if suitable alkaline habitat exists. The northern tip of the country is included within the range mapped by Scott & Rose (1996).

Central African Republic

The Cape Teal is not listed for the C.A.R. by Dowsett & Dowsett-Lemaire (1993) and while compiling this paper no records could be traced for this country. If the species does occur it is likely to be at low densities in very

few localities. The north and extreme west of the country is included within the range mapped by Scott & Rose (1996).

Chad

Hughes & Hughes (1992) document fluctuating surface areas for Lake Chad of between 2,500 km^2 and 250,000 km^2 during the 20th century. Such changes will have created and destroyed a wide variety of habitats affecting all animal populations associated with this lake and the Cape Teal may well have been more common in the recent past than it appears to be at present. Malbrant (1952) mentions specimens collected from the west coast of Lake Chad (probably from present day Nigeria) by Boyd Alexander and considered the Cape Teal to be a rare visitor, perhaps from southern Africa. Fry (1970) documents records from Baga Sola on the eastern shore of Lake Chad in December 1969. Salvan (1967) mentions Cape Teal from Lake Yoan near d'Ounianga Kebir in the north-east and Logone (several localities with this name along the Logone River) in the south-west of the country. Brown *et al.* (1982) quote Viellard (1972) for records of flocks up to 300 from Lake Chad.

The nature of ornithological coverage of Lake Chad to date does leave some hope that a much larger population of Cape Teal may be found there in the future. However, for now, there is no documented evidence to suggest a figure exceeding 500 birds for any population centred on Lake Chad. It is known from regular waterfowl counts in East Africa that the Cape Teal is not found on the open waters of the large lakes (this paper) and largely shuns such habitat in favour of sheltered waters and small ponds.

Ghana

Grimes (1987) considered the Cape Teal to be a vagrant to Ghana and could trace only two records of single birds, one from Weija in December 1975 and another at Iture near Cape Coast in March 1976 (MacDonald & Taylor 1976).

Libya

Bundy (1976) documents a single bird at Kufra oasis on the 3 April 1961 and one found dead 160 km northwest of Kufra in January 1963. Two pairs were located at Kufra in April 1968 when it was suspected to be breeding locally (Cramp & Condor 1970). Salvan (1967) quotes Mayaud regarding recent observations from l'oasis de Koufra which may be the same locality although Salvan was writing about Chad.

Niger

The only record traced is of two birds from the Cheri Oasis in August 1975 (Giraudoux et al 1988). It can only be a rare bird in Niger but may well

breed if suitable habitat (small undisturbed alkaline or brackish pools) exists.

Nigeria

Elgood (1981) reports only a small population as resident on Lake Chad and small flocks, max. 50, on borehole lakes in the Chad basin. He also refers to a record from a soda lake north of Yusufari and one sighting at Zaria but could not trace any breeding records. Hall (1976b) mentions a flock of 80 birds on Lake Chad near Nguigmi in December 1964 (Hopson 1965). Hall (1976a) recorded flocks of 10, 20 and 50 from the Bulatura Oases, Borno State during February 1976, September 1973 and December 1975 respectively. Another given locality is Malamfatori on the borders of Lake Chad (Hopson 1965).

Sudan

The only records of Cape Teal for Sudan are those of Lynes (1925) who found six birds on an alkaline lake in the Jebal Marra at the end of April 1921. The condition of the gonads of a collected bird indicated that breeding would have taken place in the near future. Lynes (1925) did not find this species at the same locality in April 1920 or November 1921. Lowe (1947) gives an interesting account of the Jebal Marra locality. During the summer of 1921 a brood of ducklings "most probably belonging to this species" was found at El Fasher and reported to Admiral Lynes (Lynes 1925). Cave & Macdonald (1955) and Nikolaus (1987) do not add any further records of this species for Sudan. Clearly it was only ever a breeding visitor in very small numbers in the far west of the country. It is surely more likely that these few records relate to a population centred on Lake Chad rather than birds from the Rift Valley in East Africa.

Despite the fact that this single record appears to be the only one for Sudan, virtually the whole country is included in the range map of Scott & Rose (1996) which follows a similar map in Brown *et al.* (1982).

Conclusions about the Chad basin population

If the population of Cape Teal associated with Lake Chad numbered thousands of birds, one would have expected many more records around the periphery of the lake and occasional records of large numbers. It is on this basis and the evidence presented here that a figure of 500 birds is given as the population estimate for Lake Chad and neighbouring states. Despite what might appear to be a lack of sufficient coverage there is no evidence of any movement between this population and that in the East African Rift Valley. Until such evidence is provided the two populations should be considered discrete.

The East African Rift Valley-centered population

Burundi

There are no records from Burundi (Schouteden 1966b, Gaugris *et al.* 1981) but the whole country is included in the range mapped by Scott & Rose (1996).

Ethiopia

Despite the statement of Brown *et al.* (1982) that it is "common to abundant", there are no documented records of large flocks. Woodman (1944) only found this species at Lake Bishoftu in parties of up to ten and considered it did not extend any further north. Woodman quotes Patrizzi (the resident ornithologist during the Italian occupation) regarding single specimens from the central Awash River and on Lake Zwai Abbe, both in February. Woodman (1945) gives further records from localities in Ethiopia and agrees with Jackson (probably 1926) that it is rare north of the equator.

Table 1. Known and possible sites in Ethiopia; (some sites listed as alkaline may better be described as brackish). The names given for the last four localities may differ from those in current usage and might refer to lakes already listed under another name.

Lake	Type	Numbers	Time	Notes
1. Lake Hora	alkaline	no data		a potential site
2. Lake Bishoftu	alkaline	20	December	None on many other occasions 1969-76 (J. Ash pers. com.)
3. Green Lake	alkaline	75	14 Jan 1998	
4. Bishoftu Gudo	alkaline	no data		a potential site
5. Lake Ziwai	fresh	no records		J. Ash pers. com.
6. Lake Langano	fresh	no records		J. Ash pers. com.
7. Lake Abijata	alkaline	0-50	61 counts in 8 months during 1969-76	(J. Ash pers. com.)
		23	8 Dec 1990	J. Ash pers. com.
		104	17 Jan 1998	J. Ash pers. com.
8. Lake Chitu	alkaline	22	23 Jan 1997	J. Ash pers. com.
10. Lake Awasa	fresh	no records		J. Ash pers. com.
11. Lake Abaya	fresh	no records		J. Ash pers. com.
12. Lake Chamo	fresh	no records		J. Ash pers. com.
13. Koka Dam	fresh	2	15 Jan 1998	none by J. Ash during 8 years of observations
14. Basaaka		2, 3 & 20	January	J. Ash pers. com.
15. Lake Shalla	alkaline	3	February	J. Ash pers. com.
		20	May	J. Ash pers. com.
16. Adele		2	July	J. Ash pers. com.
		2	October	J. Ash pers. com.
		2	November	J. Ash pers. com.
17. Chew Bahir	saline	no data		a potential site
18. Abhebad	alkaline	"numerous small flocks"		Thesiger & Meynell 1935
19. Abbe	saline	uncounted	February	Tosci in Woodman 1945
20. Aramayo	-	uncounted	November	Patritzi in Woodman 1945
21. Matahara	-	uncounted	February	Patritzi in Woodman 1945

Urban (1991) did not record this species during 7 years of observations at Gaferssa Reservoir which is a freshwater habitat and therefore unsuitable for Cape Teal. That the Cape Teal is not even mentioned in the Important Bird Areas inventory for Ethiopia (Tilahun *et al.* 1996) is indicative of the fact that there are no site counts even approaching the 1% population figure of 3,500 birds given by BirdLife International (see Tables 1&2).

There is no documentary evidence to suggest a population of more than a few hundred individuals and certainly less than 1,000 birds. John Ash (pers. comm.) considers the population to be less than 1,000 birds and probably less than 500.

Suggested adult population size: lower limits 250 birds, upper limits 500 birds. This figure is given despite the lack of data from a few known sites that may hold populations of this duck and the possibility that other, as yet unknown, sites exist.

Table 2. Total counts of Cape Teal in Ethiopia for different years. All data from African Waterbird Census except January 1991 (P. Clement pers. comm.) and November 1997 (N. Borrow pers. comm.).

	January	July	November
1990	23		
1991	120		
1992	38		
1993	10		
1994		0	
1995	81	36	
1996	33		
1997	162		50
1998	181		

Eritrea

Smith (1957) did not record this species for Eritrea and there are no records from African Waterbird Census counts between 1995 and 1998 (Dodman & Taylor 1995, Dodman & Taylor 1996, Dodman *et al.* 1997 & Dodman *et al.* 1998) though no suitable sites for Cape Teal were actually surveyed. The south western sector of the country is included within the range map in Scott & Rose (1996).

Kenya

Jackson (1926) considered this species rather uncommon and local during the early years of the 20th century, restricted to alkaline lakes in the Rift Valley and only in small flocks. He cites 15 as the largest single flock he came across and states it was commonly in flocks of 6 to 10. He believed it

was confined to the brackish waters of lakes Elmenteita, Nakuru and Hannington (= Bogoria). Britton (1980) considered Cape Teal to be typically resident on alkaline lakes with only wanderers to freshwater habitats at Naivasha, Aruba, Lake Kanyaboli, Mau Narok and Athi River. Lewis & Pomeroy (1989) map only two records away from the Rift Valley, both of which can be considered wanderers, representing single records of individual birds.

Apart from Lake Turkana in the north all major sites for Cape Teal are included in the regular January waterbird counts for the African Waterbird Census (see Tables 3 & 4). Hopson & Hopson (1975) considered the Cape Teal to be frequent and widespread on Lake Turkana with records for all months of the year. Cunningham-van Someren (1981) recorded only a few birds at Ferguson's Gulf during a survey of Lake Turkana in August and September 1980. Schekkerman & van Wetten (1987) found only 7 birds in their winter survey of the east coast of Lake Turkana, 5 at Sandy Bay and 2 at Alia Bay. This species is not mentioned for Lake Turkana either by Borghesio & Biddau (1994), Fasola *et al.* (1993) or Fasola *et al.* (1994). There is therefore some evidence for either a decline in the numbers of this species on Lake Turkana during the late 1970s or seasonal movement away from the lake. Lewis & Pomeroy (1989) map records for all 8 atlas squares which contain lake shore habitat. Despite these atlas records, the above data suggest there is not a substantial population associated with Lake Turkana.

Table 3. Recent maximum counts of Cape Teal for Kenyan lakes during the African Waterbird Census. Data taken from African Waterfowl Census Project, Ornithological Department, National Museums of Kenya (per Colin Jackson, Joseph Oyugi and Alfred Owino).

	1994	1995	1996	1997	1998	1999	2000	2001	2002
1. Lake Bogoria		1,906		1,968		2,125			
2. Lake Elmenteita				445	946				992
3. Lake Magadi	53							137	
4. Lake Naivasha							24		
5. Lake Oloidien				162					103
6. Lake Sonachi			38						
7. Lake Nakuru				386		348		167	
8. Ol Bolossat						427			
9. Dandora Sewage						306			

Table 4. Maximum counts of Cape Teal for Kenya in different years during the African Waterbird Census.

Year	January
1994	1,291
1995	1,937
1996	33
1997	2,637
1998	2,195
1999	3,575
2000	661
2001	612
2002	1,173

The suggested adult population size for Kenya is: lower limits 4,000 birds, upper limits 4,500. This figure is given on the understanding that all known sites of any importance to this species are counted on a regular basis and that such counts are largely accurate.

Tanzania

Baker (1997) gives distribution limits and population estimates of 3,000 to 5,000 birds from data collected in 1995 (maximum count of 1,165 birds by four teams) and 1996. More recent counts and further fieldwork suggest this was overly optimistic and that the population is unlikely to exceed 2,000 birds. The Tanzania Bird Atlas database (at February 2003) holds 530 records from only 20 ¼ degree squares with 68 breeding season records from only 9 squares. These data suggest a highly concentrated and resident population.

The only reference from south west Tanzania is Vesey-Fitzgerald & Beesley (1960) who regarded this species as a rare Afrotropical migrant at Lake Rukwa (cf. Scott & Rose (1996) who suggest that Lake Rukwa is in northern Tanzania and that this species is common there). Although Lake Rukwa is formed by an internal drainage basin, and therefore potentially alkaline, it is usually fresh and unsuitable for this species. There are no recent records from this lake and this species is not mentioned by Condry (1967) nor was it found during the January 1995 national count (S. Davis pers. comm.).

Elliot (1946), when referring to numbers of Cape Teal on Empakai Crater Lake (within Ngorongoro Conservation Area), refers to them as a "rare duck" whereas his collaborator and friend Fuggles-Couchman (1962) considered this species to be widely distributed and common on most open waters in northern Tanzania in small parties of 5—12 birds. Despite Elliot's description of Empaki being "sprinkled with many scores of... these rare duck" his account does not suggest many more than a hundred birds Elliot (1946) also mentions that this bird was "over shot" from a group of brackish ponds at the west base of Mt. Kilimanjaro. This is perhaps an

indication that local declines in the late nineteen forties and fifties could be attributed to excessive hunting. These pools (Magadini in the following site list for Tanzania) are currently watched regularly and are used by low numbers of Cape Teal whenever they hold water (pers. obs.).

Brown & Britton (1980) located only 37 breeding records for Kenya and Tanzania. Considering the open nature of the preferred habitat and that alkaline lakes are among the better watched sites, these are very few records indeed. There have been more breeding records from northern Tanzania in recent years (pers. obs.) but none fall outside the known range for this species.

Table 5. Known sites and maximum counts in Tanzania. All January 1995 data from Baker 1997. Unless stated otherwise all other data are from personal notes.

Lake	No.	Date	Notes
1. Lake Natron	48	January 95	only the south shore counted
2. Lake Engaruka	116	January 95	
3. Lake Manyara	75	January 95	
4. Lake Magadi (Ngorongoro)	4	January 95	none on Empakai Crater Lake, see above.
5. Semetu Pools (Serengeti N.P.)	4	January 95	
6. Lake Lagarja (Serengeti N.P.)	49	December 97	
7. Lake Masek (Ngorongoro)	87	January 95	
8. Arusha National Park	>200	October 94	
	260	January 95	
9. Magadini pools	33	December 96	Elliott's (1946) "brackish ponds"
10. Sinya Mine pools	106	March 98	
11. Lower Moshi Irrigation scheme	3	January 95	
12. Lake Eyasi	11	January 95	
	7	June 98	D. Bygott pers. comm.
13. Lake Balangida	35	January 01	Msuha & Mungaya (2001)
14. Lake Balangida Lelu	303	January 95	
15. Lake Burungi	243	January 95	
16. Lake Singida	>10	October 94	
17. Lake Kindai	4	November 95	
18. Lake Rukwa		no numbers given	rare Afrotropical migrant (Vesey-Fitzgerald & Beesley 1960).

The suggested maximum adult population size is: lower limits 1,500 birds, upper limits 2,000 birds. These figures are given on the understanding that virtually all waterbodies holding populations of this duck are known and have been counted quite accurately.

Uganda

There are no records from Uganda (Britton 1980) but the range map in Scott & Rose (1996) encompasses the whole country.

Rwanda

There are no historical records from Rwanda (Schouteden 1966a) yet virtually the whole country is covered by the range given in Scott & Rose (1996).

Somalia

There are no records from Somalia (Ash & Miskell 1983) yet the south eastern part of the country is covered by the range map in Scott & Rose (1996).

Zambia

Although this species is known from nine atlas squares in Zambia (P. Leonard pers. comm.) all records are from south of 13° South and it is a rarely recorded species despite old breeding records. It is likely that all records refer to birds from the southern African population at the northern edge of the range. There is evidence from Zimbabwe for a recent expansion of range due to the increase in sewage and industrial effluent ponds (Tree 1997) and this general increase may be partly responsible for an increase of sightings in Zambia.

Summary of count maxima per country

Considering that this is a congregatory species outside the breeding season and that it favours alkaline habitat which is easy to count, it is worth noting the highest recorded country totals given in Table 6.

Table 6. Maximum counts for each range state.

Country	No.	Date	Notes
Tanzania	1,165	January 1995	(Baker 1997)
Kenya	3,575	January 1999	(A. Owino pers. comm.)
Ethiopia	181	January 1998	(Dodman *et al.* 1997)
Chad	60		Ounianga Kebir (Scott & Rose 1996)
Nigeria	80	December 1964	(Hopson 1965)
"Lake Chad"	300	(no date)	(Viellard 1972)
Sudan	6	summer 1921	(Lynes 1925)

From the above it is clear that the population is far more restricted than indicated in Scott and Rose (1996) and it must be assumed that it is most unlikely to exceed 10,000 birds.

Movements

Hall (1976b) suggested that birds associated with Lake Chad and surrounding areas are visitors from the East African Rift Valley and Malbrant (1952) considered such birds originated from southern Africa. However, despite the lack of regular monthly data from the majority of Rift

Valley lakes, the only evidence of movement is of ringed birds moving locally (Backhurst 1974, 1977) and lakes being vacated when water levels become much reduced. There is certainly no mass movement after breeding and there are very few records of birds (always of low numbers, and usually just individuals) on freshwater habitats, even those lying within a few kilometers of alkaline lakes where birds breed and congregate during the non-breeding season. It is suggested that records of wanderers in west and north Africa and of breeding pairs within the same range are part of a population centred on Lake Chad rather than visitors from East Africa.

New population estimates

This paper proposes that there are two discrete populations in eastern and western Africa rather than the single population suggested by Scott & Rose (1996). Given this, then the population level associated with the Lake Chad basin is probably less than 500 birds with a 1% level of just 5 birds. For the East African Rift Valley population the range state totals assumed from data presented above are shown in table 7.

Table 7. Proposed population estimates by country for the East African Rift Valley population.

Country	Low	High
Ethiopia	250	500
Kenya	4,000	4,500
Tanzania	1,500	2,000
totals	5,750	7,000

The suggested maximum adult population of the Rift Valley is only 7,000 birds giving a 1% level for Ramsar sites of 70 birds. Several sites in Ethiopia, Kenya and Tanzania now meet the Ramsar 1% criterion for this species.

It should perhaps be emphasised again that this is an easy species to count accurately. There is little or no vegetation cover in preferred habitat and roosting birds are generally visible along the banks of lakes and ponds as they rarely stray far from the water's edge.

Population trends

The much reduced population sizes proposed in this paper should not be taken as an indication of population declines. It is clear from the available historical data that previous estimates were overly optimistic. There is nothing to suggest a recent marked decline in any of the range state populations discussed in this paper. However, East African birds are not yet adapting to man made habitats as is happening in southern Africa

where the Cape Teal is expanding its range (Maclean 1997). Some traditional sites in East Africa such as Lake Nakuru in Kenya are under environmental pressure but in general terms the East African population of the Cape Teal can be said to be stable around the usual fluctuations that poor and successful breeding seasons place on all bird populations.

Acknowledgements

I wish to thank Hilary Fry, Colin Jackson, Walter Jetz, Joseph Oyugi and the RSPB library service for providing references used in this paper. John Ash kindly provided unpublished data from Ethiopia. Yilma Dellelegan, Alfred Owino and Joseph Oyugi commented on draft accounts for Ethiopia and Kenya respectively. Liz Baker, Joost Brouwer, Chris Chandler, Terry Oatley and Derek Scott are thanked for comments on earlier drafts and Tim Dodman for his review.

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Scopus 23: 29-43, July 2003 Received February 2003